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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,183	05/05/2004	Andrew Bellis	15114H-074800US	7497

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EXAMINER	
NGUYEN, THAN VINH	
ART UNIT	**PAPER NUMBER**
2187	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/840,183	BELLIS ET AL.	
	Examiner	Art Unit	
	Than Nguyen	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,17-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,12-15 and 17-22* is/are rejected.

7)☒ Claim(s) *2-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is a response to the amendment, filed 10/24/06.

2. Claim 16 has been canceled. Claims 17-22 have been added. Claims 1-15 and 17-22 remain pending.

Response to Amendment/Arguments

3. In view of the amendment to the title, the previous objection to the title is withdrawn.

4. Applicant's arguments filed 10/24/06 have been fully considered but they are not persuasive. Applicant argues that Azevedo does not teach testing if a read request relates to configuration data for the programmable logic device. The Examiner disagrees. As presently claimed, the claim language does not clearly define what "configuration data for the programmable logic device" represents. Therefore Examiner broadly interprets this configuration data as any data that is stored on the programmable logic device. Azevedo teaches storing data patterns to test against pending read requests (12/4-11). Thus, the Examiner maintains that the data patterns of Azevedo reads upon the claimed configuration data, as claimed, since it is also used to test a relationship against a pending read request.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. As to claim 17,20 it is unclear as what is meant by "in the form of a defined burst length". The use of the term "form" is ambiguous, as it does not clearly describe the invention and has multiple meanings (See Webster dictionary definition of the term "form"). None of the meanings (from Webster dictionary" clearly describe what "in the form of a defined burst length" means. The Examiner requests Applicant rephrase the claim language to more clearly describe the invention.

8. As to claim 18, it is unclear as how the claimed invention operates. In claim 18, there is a condition that the memory performs a prefetch operation "**only if** it is determined that a read buffer contains an amount of unused space exceeding a predetermined threshold". Yet, in the parent claim 12, the memory controller performs a prefetch operation "**only if** it is determined that there is a high probability that said present read access request relates to configuration data for said programmable logic device". There are two unrelated "only if" conditions under which the memory prefetch operation functions. Therefore, it is unclear as under what condition the prefetch operation actually functions (which only if condition). Applicant must modify the claim language clarify this claim limitation. Claim 21 (parent claim 13) is also rejected for the same reasons as claim 18.

9. As to claim 19,22 it is unclear as what is meant by "relates to a defined length burst". The usage of the term "relates" is vague and ambiguous as it is unclear as how a read request can be related to a burst length since Applicant did not define the possible relationships between a

read request and a burst length. The Examiner requests Applicant define or show the definition of the term "relates" and its application to this limitation.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1,12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Azevedo et al (US 7,035,979).

As to claim 1,12,13:

12. Azevedo teaches a method and apparatus for optimizing cache hit ratio. Azevedo teaches the claimed system and its method of operation of performing a prefetch operation:

testing whether a present read access request is such that there is a high probability that said present read access request relates to configuration data for said programmable logic device (recognize if request is of a recognized pattern; 12/4-11; Fig 11, 1130); and performing a prefetch operation only if it is determined that there is a high probability that said present read access request relates to configuration data for said programmable logic device (perform prefetch if request is a recognized pattern; 12/4-11; Fig. 11, 1140).

As to claim 14:

13. Azevedo teaches wherein said external memory device comprises a flash memory device (13/18).

As to claim 15:

14. Azevedo teaches wherein said external memory device comprises a SRAM device (6/31-34).

Allowable Subject Matter

15. Claims 2-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. As to claim 2, the prior art of record does not further suggest the step of testing whether a present read access request is such that there is a high probability that said present read access request relates to configuration data for said programmable logic device comprises: determining whether the present read access request relates to a burst type from a predetermined group of suitable burst types, selected from the possible burst types.

17. Claims 3 and 9-11 are also allowable for incorporating the limitations of claim 2, and further limitations.

18. As to claim 4, the prior art of record does not further suggest if it is determined that a prefetch operation is to be performed: when the present read access request is completed, testing whether a read buffer contains an amount of unused space exceeding a predetermined threshold; and performing the prefetch operation only if it determined that the read buffer contains an amount of unused space exceeding a predetermined threshold.

19. Claims 5-8 are also allowable for incorporating the limitations of claim 4, and further limitations.

20. Claims 17-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

21. As to claims 19 and 22, the prior art does not further teach the memory controller returns prefetched data to a requesting device if: the further read requests relates to a defined length burst; the further read request corresponds to a same chip select of the prefetch operation; and the start address of the further read request corresponds to a start address of the prefetch operation which is in progress.

22. Claims 17 and 20 have allowable subject matter similar to that of claim 2.

23. Claims 18 and 21 have allowable subject matter similar to that of claim 4.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Than Nguyen whose telephone number is 571-272-4198. The examiner can normally be reached on 8am-3pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Than Nguyen
Primary Examiner
Art Unit 2187